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EXAMINER	
LONG, ANDREA NATAE	
ART UNIT	PAPER NUMBER
2176	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/687,486	MACKINLAY ET AL.	
	Examiner	Art Unit	
	Andrea N. Long	2176	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 October 2003* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/4/2004 7/2/2004 5/10/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-40 have been examined in response to application filed 10/17/2003.

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of **50 to 150 words**. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The submitted abstract is 156 words in length.

2. The disclosure is objected to because of the following informalities: Paragraphs [0001] and [0029] are missing Serial Numbers.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 38 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 38 recites a “carrier wave encoded to transmit”.

Signals and waves do not fall with the four statutory categories (process, machine, manufacture, or composition of matter) of patent eligible subject matter.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-5, 10, 12-18, and 37-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Microsoft Excel (User's Guide Microsoft Excel, Version 5.0 1993), hereinafter "Excel".

As to independent claims 1, 37 and 38, Excel teaches *a method of shifting attention* (page 666, Excel teaches using an auditing function "Tracers" to draw attention quickly to cells) *comprising the steps of*:

determining the location for a focus of attention (page 669, Excel teaches selecting a cell to become active);

determining a display event (pages 667-668, Excel teaches using tracer arrows to connect related cells, which shows the flow of data from one cell to another);

determining the location of the display event (page 668, Excel teaches displaying tracer arrows within a worksheet); and

determining an attention shifting display element based on the display event, the determined location of the display event and the focus of attention (pages 668-669, Figures 1 and 2, Excel teaches displaying tracer arrows to show the flow of data into a formula, based on the starting active cell within a worksheet, and the users choice of tracing precedents or dependents).

As to dependent claim 2, Excel teaches *determining the distance between the focus of attention and the display event* (page 669 –671, Fig. 4, Excel teaches determining the distance "length of the tracer arrow", from beginning active cell to the point of the arrow); and

wherein the attention shifting display element is determined based on the location of the display event and the determined distance (page 668-671, Excel teaches using the tracer arrows to trace the flow of data from one cell to another within a worksheet).

As to dependent claim 3, Excel teaches wherein the *focus of attention is determined based on monitoring user actions* (pages 669-670, Excel teaches clicking on cells to activate them).

As to dependent claim 4, Excel teaches wherein *user actions are monitored based on a user selection tracking* (pages 669-670, Excel teaches clicking on cells to activate them).

As to dependent claim 5, Excel teaches wherein the *display event is associated with animated information* (page 668, Excel teaches tracer arrows are drawn to draw attention to different cells).

As to dependent claim 10, Excel teaches *determining a combination attention shifting display element based on a display event located more than a threshold distance from the focus of attention* (page 671, Figure 4, Excel teaches having the focus of attention having a combination of active cells to produce attention shifting display element (formula) from the multiple distances of each cell).

As to independent claims 12, 39, and 40, Excel teaches a method of *determining an attention shifting display element* (page 666, Excel teaches using an auditing function "Tracers" to draw attention quickly to cells) comprising the steps of:

determining a focus of attention (page 669, Excel teaches selecting a cell to become active);

determining a location of a display event (page 668, Excel teaches displaying tracer arrows within a worksheet);

determining an attention directing portion of an attention shifting display element based on the focus of attention and the location of the display event (pages 668-669, Figures 1 and 2, Excel teaches displaying tracer arrows to show the flow of data into a

formula, based on the starting active cell within a worksheet, and the users choice of tracing precedents or dependents).

As to dependent claim 13, Excel teaches *determining an attention attracting portion of an attention shifting display element based on the distance between the location of the display event and the location of the focus of attention* (page 668 –671, Fig. 4, Excel teaches determining the distance "length of the tracer arrow", from beginning active cell to the point of the arrow, using the tracer arrows to trace the flow of data from one cell to another within a worksheet).

As to dependent claim 14, Excel teaches *determining at least one information portion within the focus of attention, associated with the attention shifting display element, and where the information portion displays information associated with the display event* (page 668, Excel teaches the active cell having tracer arrows to draw the flow of data which is associated with a formula).

As to dependent claim 15, Excel teaches *where the information portion is a mathematical operator and a symbolic operator* (page 671, Fig 4 "formula").

As to dependent claim 16, Excel teaches *where the attention shifting display element is dynamically determined based on continued focus of attention on a display*

region (page 671, Fig 4, Excel teaches that based on the active cell with the worksheet a tracer can show association between the active cell and its associated formula.

As to dependent claim 17, Excel teaches *where the continued focus of attention is determined based on user monitoring* (pages 669-670, Excel teaches clicking on cells to activate them).

As to dependent claim 18, Excel teaches *where the attention shifting display element is dynamically determined based on continued focus of attention on the display event and wherein the display event is based on a mouse event* (pages 669-670, Excel teaches clicking on cells to activate them).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. **Claims 19-23, 28, and 30-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Microsoft Excel (User's Guide Microsoft Excel, Version 5.0 1993), hereinafter "Excel".**

As to independent claim 19, Excel teaches *a system of shifting attention* (page 666, Excel teaches using an auditing function "Tracers" to draw attention quickly to cells) *comprising: receiving a display event information* (page 669, user selection of cells), *determining a focus of attention* (page 669, Excel teaches selecting a cell to become active), *determining the location of the display event* (page 668, Excel teaches displaying tracer arrows within a worksheet), and *determining an attention shifting display element based on the display event information, the location of the display event and the location of the focus of attention* (pages 668-669, Figures 1 and 2, Excel teaches displaying tracer arrows to show the flow of data into a formula, based on the starting active cell within a worksheet, and the users choice of tracing precedents or dependents). While Excel does not explicitly state *an input/output circuit, a memory, a processor, and circuits*, it is well known and reasonably understood that Excel was created to run and be executed on a computer system. It is also well know that most computer systems contain input/output circuits, some type of memory (cache, RAM, ROM), a processor, and circuits.

It would have been obvious to one skilled in the art at the time the invention was to have used a computer systems that contain input/output circuits, some type of memory (cache, RAM, ROM), a processor, and circuits with to allow for implementation of the above determining functions.

As to dependent claim 20, Excel teaches *a distance determination circuit that determines the distance between the focus of attention and the display event and the attention shifting display element is determined based on the location of the display event and the determined distance* (page 668 –671, Fig. 4, Excel teaches determining the distance "length of the tracer arrow", from beginning active cell to the point of the arrow, using the tracer arrows to trace the flow of data from one cell to another within a worksheet).

As to dependent claim 21, Excel teaches wherein the *focus of attention is determined based*
on monitoring user actions (pages 669-670, Excel teaches clicking on cells to activate them).

As to dependent claim 22, Excel teaches wherein *user actions are monitored based on a user selection tracking* (pages 669-670, Excel teaches clicking on cells to activate them).

As to dependent claim 23, Excel teaches wherein the *display event is associated with animated information* (page 668, Excel teaches tracer arrows are drawn to draw attention to different cells).

As to dependent claim 28, Excel teaches *determining a combination attention*

shifting display element based on a display event located more than a threshold distance from the focus of attention (page 671, Figure 4, Excel teaches having the focus of attention having a combination of active cells to produce attention shifting display element (formula) from the multiple distances of each cell).

As to independent claim 30, Excel teaches *a system of determining an attention shifting display element* (page 666, Excel teaches using an auditing function "Tracers" to draw attention quickly to cells), *which determines the focus of attention* (page 669, Excel teaches selecting a cell to become active), *determines the location of the display event* (page 668, Excel teaches displaying tracer arrows within a worksheet), and *determines an attention directing portion of an attention shifting display event based on the focus of attention and the location of the display event* (pages 668-669, Figures 1 and 2, Excel teaches displaying tracer arrows to show the flow of data into a formula, based on the starting active cell within a worksheet, and the users choice of tracing precedents or dependents). While Excel does not explicitly state circuits to perform these tasks, it is well known and reasonably understood that Excel was created to run and be executed on a computer system. It is also well know that most computer systems contain circuits.

It would have been obvious to one skilled in the art at the time the invention was to have used a computer systems that contain circuits to allow for implementation of the above determining functions.

As to dependent claim 31, Excel teaches *determining an attention attracting portion of an attention shifting display element based on the distance between the location of the display event and the location of the focus of attention* (page 668 –671, Fig. 4, Excel teaches determining the distance "length of the tracer arrow", from beginning active cell to the point of the arrow, using the tracer arrows to trace the flow of data from one cell to another within a worksheet).

As to dependent claim 32, Excel teaches *determining at least one information portion within the focus of attention, associated with the attention shifting display element, and where the information portion displays information associated with the display event* (page 668, Excel teaches the active cell having tracer arrows to draw the flow of data which is associated with a formula).

As to dependent claim 33, Excel teaches *where the information portion is a mathematical operator and a symbolic operator* (page 671, Fig 4 "formula").

As to dependent claim 34, Excel teaches *where the attention shifting display element is dynamically determined based on continued focus of attention on a display region* (page 671, Fig 4, Excel teaches that based on the active cell with the worksheet a tracer can show association between the active cell and its associated formula.

As to dependent claim 35, Excel teaches *where the continued focus of attention is determined based on user monitoring* (pages 669-670, Excel teaches clicking on cells to activate them).

As to dependent claim 36, Excel teaches *where the attention shifting display element is dynamically determined based on continued focus of attention on the display event and wherein the display event is based on a mouse event* (pages 669-670, Excel teaches clicking on cells to activate them).

8. Claims 7, 9, are rejected under 35 U.S.C. 103(a) as being unpatentable over Excel further in view of Jonathan Grudin (Partitioning Digital Worlds: Focal and Peripheral Awareness in Multiple Monitor Use, 2001), hereinafter "Grudin".

As to dependent claim 7, Excel teaches the *distance between the focus of attention and display event.* However, Excel does not teach *wherein the distance between the focus of attention and display event includes at least one non-sensible portion.* Grudin teaches including a non-sensible portion (page 460 1st paragraph). Grudin teaches that it is well known that multiple displays do not connect seamlessly.

It would have been obvious to one skilled in the art at the time the invention was made to have inferred that if multiple monitors were in use the display of information would contain at least one seam.

As to dependent claim 9, Excel teaches *determining the attention shifting display element* (pages 668-669, Figures 1 and 2, Excel teaches displaying tracer arrows to show the flow of data into a formula, based on the starting active cell within a worksheet, and the users choice of tracing precedents or dependents). Excel also teaches a *dynamic attention shifting display element* (page 668, the active cell) *and a static shifting* display *element* (page 668, the resulting formula). However, Excel does not teach *determining a dynamic attention shifting display element based on a display event located at the periphery of attention* and *determining a static attention shifting display element based on a display event located at the focus of attention.* Grudin teaches using one monitor for focal attention and the second monitor for periphery awareness (page 464, 2nd column 2nd paragraph).

It would have been obvious to one skilled in the art at the time the invention was made to have combined the attention shifting of Excel with the focal and periphery attention of Grudin to maximize the use and capabilities of a spreadsheet and to increase the opportunity to design suites of awareness and notification features that draw on the full range of communication and agent software that a person selects.

9. **Claims 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Microsoft Excel (User's Guide Microsoft Excel, Version 5.0 1993), hereinafter**

"Excel" in further view of Jonathan Grudin (Partitioning Digital Worlds: Focal and Peripheral Awareness in Multiple Monitor Use, 2001), hereinafter "Grudin".

As to dependent claim 25, Excel teaches the *distance between the focus of attention and display event.* However, Excel does not teach *wherein the distance between the focus of attention and display event includes at least one non-sensible portion.* Grudin teaches including a non-sensible portion (page 460 1st paragraph). Grudin teaches that it is well known that multiple displays do not connect seamlessly.

It would have been obvious to one skilled in the art at the time the invention was made to have inferred that if multiple monitors were in use the display of information would contain at least one seam.

As to dependent claim 27, Excel teaches *determining the attention shifting display element* (pages 668-669, Figures 1 and 2, Excel teaches displaying tracer arrows to show the flow of data into a formula, based on the starting active cell within a worksheet, and the users choice of tracing precedents or dependents). Excel also teaches a *dynamic attention shifting display element* (page 668, the active cell) *and a static shifting* display *element* (page 668, the resulting formula). However, Excel does not teach *determining a dynamic attention shifting display element based on a display event located at the periphery of attention* and *determining a static attention shifting display element based on a display event located at the focus of attention.* Grudin

teaches using one monitor for focal attention and the second monitor for periphery awareness (page 464, 2nd column 2nd paragraph).

It would have been obvious to one skilled in the art at the time the invention was made to have combined the attention shifting of Excel with the focal and periphery attention of Grudin to maximize the use and capabilities of a spreadsheet and to increase the opportunity to design suites of awareness and notification features that draw on the full range of communication and agent software that a person selects.

10. Claims 6, 8, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Excel as modified by Grudin further in view of Tan et al. (Effects of Visual Separation and Physical Discontinuities when Distributing Information across Multiple Displays, 2003, *motivational purposes only*), hereinafter "Tan".

As to dependent claim 6, Excel teaches *a focus of attention* (page 669, Excel teaches selecting a cell to become active) and *a display event* (pages 667-668, Excel teaches using tracer arrows to connect related cells, which shows the flow of data from one cell to another). However, Excel does not teach wherein *the focus of attention is located on a first display and the display event is located on a second display.* Grudin teaches using multiple integrated displays to present information (page 459 "Dual or multiple monitors").

It would have been obvious to one skilled in the art at the time the invention was made to have combined the display event and focus of attention of Excel with the multiple displays of Grudin to allow the system to present information across much wider visual angels than before and to provide abundant display space as disclosed by Tan (page 1 "Introduction").

As to dependent claim 8, Excel as modified by Grudin in further view of Tan teaches wherein *the distance between the focus of attention and the display event are displayed on multiple screens*. Grudin further teaches one *non-sensible portion*.

As to dependent claim 11, Excel teaches *a focus of attention* (page 669, Excel teaches selecting a cell to become active) and *a display event* (pages 667-668, Excel teaches using tracer arrows to connect related cells, which shows the flow of data from one cell to another). However, Excel does not teach wherein *the focus of attention is located on a first display and the display event is located on a second display*. Grudin teaches using multiple integrated displays to present information (page 459 "Dual or multiple monitors").

It would have been obvious to one skilled in the art at the time the invention was made to have combined the display event and focus of attention of Excel with the multiple displays of Grudin to allow the system to present information across much wider visual angels than before and to provide abundant display space as disclosed by Tan (page 1 "Introduction").

11. Claims 24, 26, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Excel as modified by Grudin further in view of Tan et al. (Effects of Visual Separation and Physical Discontinuities when Distributing Information across Multiple Displays, 2003, *motivational purposes only*), hereinafter "Tan".

As to dependent claim 24, Excel teaches *a focus of attention* (page 669, Excel teaches selecting a cell to become active) and *a display event* (pages 667-668, Excel teaches using tracer arrows to connect related cells, which shows the flow of data from one cell to another). However, Excel does not teach wherein *the focus of attention is located on a first display and the display event is located on a second display*. Grudin teaches using multiple integrated displays to present information (page 459 "Dual or multiple monitors").

It would have been obvious to one skilled in the art at the time the invention was made to have combined the display event and focus of attention of Excel with the multiple displays of Grudin to allow the system to present information across much wider visual angels than before and to provide abundant display space as disclosed by Tan (page 1 "Introduction").

As to dependent claim 26, Excel as modified by Grudin in further view of Tan teaches wherein *the distance between the focus of attention and the display event are displayed on multiple screens*. Grudin further teaches one *non-sensible portion*.

As to dependent claim 29, Excel teaches *a focus of attention* (page 669, Excel teaches selecting a cell to become active) and *a display event* (pages 667-668, Excel teaches using tracer arrows to connect related cells, which shows the flow of data from one cell to another). However, Excel does not teach wherein *the focus of attention is located on a first display and the display event is located on a second display*. Grudin teaches using multiple integrated displays to present information (page 459 "Dual or multiple monitors").

It would have been obvious to one skilled in the art at the time the invention was made to have combined the display event and focus of attention of Excel with the multiple displays of Grudin to allow the system to present information across much wider visual angels than before and to provide abundant display space as disclosed by Tan (page 1 "Introduction").

Conclusion

12. The prior art made of record on Form PTO 892 and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrea N. Long whose telephone number is 571-270-1055. The examiner can normally be reached on Mon - Thurs 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Herndon can be reached on 571-272-4136. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andrea Long
02/10/2007